"SCOTTISH JENNY LIND" CLIMBS TO FAME ON STRING OF FAMILY HEIRLOOM PEARLS

THE Romance of Girl Singer, Who Used Pearls to Pay for Her Musical Training. The Lesson From Tetrazzini—Exciting Race Against Time Which Led to An Engagement by Sir Thomas Beecham to Sing at the Royal Opera House, Covent Garden, in "The Magic Flute."

By COMPTON PRICE.

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HERE is the true and strange story of the daughter of a Scottish nobleman who has climbed to fame by means of a rope of pearls. Leaving the ancestral mansion at fifteen, running away to London to fulfill her ambition, which her parents sternly denied her, of becoming a prima donna, she lived in a slum and got the best tuition to be had from the sale, pear by pearl, of a magnificent necklace, a family heirloom and her only inheritance.

Tetrazzini, all unknowing, gave her her first lesson. Sir Thomas Beecham of opera fame gave her her first big chance. Today, hailed as the new Jenny Lind, she keeps as her mascot the one pearl left from the necklace. Nearly killed in the south of France by a young Frenchman, incensed because she would not give up her career to marry him, she has passed through many adventures to a great place in the world of son while yet in her early twenties. Now an editor of one of the most important mnsical journals in England, an operatic star and an acknowledged leader on the concert platform, she hides her real identity under the name of Ursula Greville.

Her first big triumph was scored at the famous Queen's Hall, London. Let us see her as, after her struggle in the slums, she comes to win the plaudits of London's music lovers. The place is packed. On the platform where Sir Henry Wood has so often conducted the great arc lamps throw down a wide circle of light. Against it the banked masses of flowering plants and palms at the sides offer a welcome relief of subdued color. On the right of the stage is a solitary grand piano. There is an expectant hush, for the debut of a new singer is about to be made. The accompanist slips into his place and the opening notes of a new Stravinsky song herald the great event.

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THEN quietly, unobtrusively there walks on to the platform a slender young woman, hardly more than a girl. So frail is she in build that the audience gasps. As she stands there, with the great white lights focussed upon her, looking smaller than ever in the immensity of that platform space, it is not easy to understand how she can hope to rival the power and volume of the famous sopranos of the past. A mass of fine, fair hair, falling in two great waves on either side of her forehead and coiled at the back, emphasizes her fragility. The features are fine and well defined and the firm jaw gives strength to a spiritual face. It is the face of an idealist with the will and determination to achieve her ideals.

After one swift glance at her the audience settled down resignedly to listen to the usual well trained voice that can sing delicately and sweetly but rather weakly the usual sentimental songs. But at the first rich, powerful note there is a thrill, the thrill of genuine surprise. No longer does this audience, one of the most critical and most difficult to please in the world, look at the frail figure of the singer. Instead it surrenders to the spell of her magical voice. And from that electric moment they succumb to the enchantment, listening with strained silence which is the greatest tribute any singer can have. As the last wonderful note dies lingeringly away, glorious to the end, there is a pause like the intaking of breath, a pause more eloquent than a storm of applause. But the hurricane comes. And amid the frenzied clapping this young girl with the wonderful voice steps into the fame that she has fought for amid the poverty of a London slum.

No story of any prima donna outrivals hers in interest and romance. This girl, who before many years are over will, it is claimed, be as well known as widely as Tetrazzini, started life in the purple. She is the daughter of an old and noble Scottish family. Every advantage that high

MME. TETRAZZINI, WHO UNCONSCIOUSLY GAVE URSULA GREVILLE HER FIRST SINGING LESSON.

birth and wealth could give was hers, for she bears a name famous in the history of her own land. This is not the usual story of the poor girl doomed to poverty, with genius but no chance to express it, winning her way by the help of some wealthy patron of art. It is the much less common history of the child of wealth and station assuming poverty and a new name because her parents refused to help her. But for her pearl necklace she probably would have starved.

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VERY early in life she realized that she was born to be a singer, but as no member of her family had ever been connected with the stage or the concert platform, she was not allowed to take up the career. It speaks much for the strength of character which Miss "Greville" happily possesses that though every obstacle was put in her way, including, of course, the time-honored method of keeping her all but penniless, she took matters into her own hands at the age—think of it—of fifteen.

So young, this tenderly nurtured girl, who had lived the sheltered, protected life of a nobleman's daughter, set off to London alone, virtually without money, to achieve her ambition. All she had of value was her pearl necklace when she reached London, without a friend, not daring to make herself known in her real character to those who might have helped her, because they might have sent her back home. Had her father found

URSULA GREVILLE, "SCOTTISH JENNY LIND," WHO HAS CLIMBED TO FAME BY MEANS OF A STRING OF PEARLS.

her he could by law have compelled her to return. So she hid in a single room in a slum lodging house near King's Cross. Her choice of this district is especially interesting, because it was near here that England's greatest master of humor and pathos, Charles Dickens, spent some of his boyhood days, miserable, unkempt, half-starved, working in a blacking factory, a "child slave." And out of these sordid slums he rose to world fame and wealth. Any one who knows the slum district of King's Cross will understand a little what the abrupt change from her family's luxurious Scottish mansion to this slum lodging must have meant to Ursula Greville.

"The street I lived in," she told me, "was an evil-smelling, noisome place." And here this slender girl of fifteen, carrying with her jewels of great price, though their true value was unknown to her, started her upward climb, handicapped by the very circumstances that, under other conditions would have made easy her path.

One can imagine her slipping in and out of the sordid street, an alien to all the life around her, fearful, rather helpless, but sternly faithful to her self-appointed task. The wonder is that she was never robbed of her valuable pearls. It needed no little grit for such a girl to tolerate for years the unsavory conditions of life in such a district. Up to the age of fifteen she had been waited on hand and foot. She had not been taught to do things for herself. Why should she have been when there always were plenty of servants to do them for her? Here she had not only to learn how to become a great singer but also how to look after herself, how to cook meals, how to buy, how to mend, how to clean and how to make her bed. Life must have been extraordinarily hard for her. Not knowing the real value of her pearls nor realizing that the necklace as a whole was worth very much more than the separated single stones, she sold them one at a time as she came to the end of her money.

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HERE is her own modest story of her early struggles as told to me. "I was really only fifteen," she said, "when I came to London and lived in a single room in a slum lodging house. I had to do that because I did not have the means to live under better conditions and carry out my scheme to become a singer. I knew succeses was going to mean a long struggle and that I should have to work hard. I meant to do the whole business thoroughly. Accordingly I took music lessons from different masters, always choosing the best available, and I learnt French, German and Italian, and studied music all the hours of the day. * * * When I became hungry and the time came around for me to pay for my various lessons I used to take a pearl from my string and go out and sell it. I knew that the pearls were valuable, but I never had them valued and had no idea of their true worth.

"I found a very accommodating Jew and my method was to find out how much I owed and how much I should want for my immediate needs and ask for just that sum in exchange for the pearl. He paid me without a murmur and always seemed to be glad to see me. But even a rope of pearls cannot last forever and by slow degrees it melted away until I was left with only a dozen. Then one by one they followed the rest until I had only one left. I still have it, the only pearl left of that family heirloom, and I will never part with it. I am going to keep it for luck."

It is an interesting fact that Tetrazzini gave her her first inspiration. Ursula heard the great singer when she was a small girl. Fired with the ambition to be a second Tetrazzini, one of the first things she did when she came to London was to scrape together all the money she could to buy a ticket for a concert given by the prima donna. The cost of that ticket was a small fortune to the girl, but it gave her her first real lesson in the art of singing.

It had meant very careful saving and much sacrifice. But it was worth it all. Ursula had written to Tetrazzini asking her to include in her program a little song which she hoped afterward to practice for herself on the Tetrazzini model. She wrote to the prima donna that if she would sing the song "she would make a little girl very happy." In the crowded hall that night there sat an excited girl of fifteen, waiting for the magic moment when the first full notes of the song she had asked for would ring out from that wonderful mistress of song. But item followed item.

Encore succeeded encore. And still she waited for the song that did not come. The program ended and the girl, sick with disappointment, was getting ready to go when, graciously responding to the hurricane of applause which greeted her last official song, Tetrazzini reappeared on the platform. Breathless with expectancy, her unknown admirer anxiously listened for the title of the last encore. To her unspeakable delight the song she had asked for was announced by the prima donna, who said that she was singing it "by special request."

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WITH heart beating high, lost in the supreme happiness of the moment to all around her, she learnt that night a lesson she has never forgotten. The perfect finish, the wonderful art, of that rendering were at once her despair and her delight. Tetrazzini had indeed made a little girl very happy, so happy that when the song was over she forgot the crowd and the occasion and in her pardonable excitement rose, shouted "Hurrah!" and clapped her hands above her head. One wonders if Tetrazzini caught sight of that enthusiastic little figure and knew that she had won a richer regard for that song than all the fabulous fees she is wont to receive. One would like to think so, at any rate.

Long after this unforgettable first lesson, with all but the last pearl gone and the goal not reached, another dramatic climax marked this girl's romantic climb to fame. Suddenly, at the end of her resources, some one left her a legacy of $3,000. This was ample to meet her case and all seemed bright as a sunny day. But again she was to meet trouble. One day she unexpected encountered an old friend who was in deep financial waters. She gave him the whole of her remaining money. As she calmly explains: "That was the end of that, and I found myself face to face once again with the old, old difficulties of finding means to go on with all my resources vanished. Help came at a critical moment and I found myself getting offers of singing engagements which at least enabled me to live and go on with my studies."

By this time she had been able to leave the slum behind her, but she was still waiting for a real chance to begin a career. Suddenly it came with an engagement to sing at a society function at the Aeolian Hall. And here again the freakish god of mischance took a hand. An automobile was to fetch her to the hall. It never came. At last, already late, she set out to walk. That journey was a sorrowful way for her. At a time when she should have been on the stage she was only half-way to the place. At last she arrived, fearing that she had missed the greatest chance of her life. But luck once again favored her. Amid a wild rush she was dressed for the platform. With half a dozen people racing against time, one removing her hat, another her shoes, two others her dress, she was got ready to face the ordeal of her first important audience with a difficult program of classical music.

In that audience was Sir Thomas Beecham, then preparing for his season of opera at the famous Royal Opera House, Covent Garden. Let Miss Greville describe her experience. "I was bundled on to the stage more dead than alive. * * * I sang when I was nearly crying to go home. Song words came out of my mouth, but the only words that were beating themselves in my brain were—'In another minute I shall be going home.'"

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IT says much for Miss Greville's art that despite the handicaps under which she suffered she so impressed Sir Thomas Beecham that he decided to give her a part at Covent Garden. There she made her debut in opera, taking the part of the Queen of the Night in "The Magic Flute."

Among the adventures of her fight for fame must be told one that might well have ended the matter once and for all. She had gone to the south of France and there a young Frenchman fell violently in love with her. He was so badly hit that on being told that Miss Greville was returning to England to continue her career he implored her to give it up and remain in France. This she very naturally refused to do and so great was his anger and disappointment that he all but strangled her.

Among her greatest admirers as an artist is the famous conductor of the Russian ballet, M. Ansermet. He met her soon after Sir Thomas Beecham, and she sang for him a song composed by his friend, Stravinsky. So delighted was he with her rendering of it that he jumped up from his chair and, taking her by the hand, exclaimed: "My child, in three years people will be coming from all over the world to hear you sing that song!"

Today she is an acknowledged queen of song in England. At a recent concert of hers at the Queen's Hall M. Ansermet accompanied her, coming to London specially for the concert.

Already Miss Greville has had a triumphal tour of the British Isles. At Manchester, Liverpool, Edinburgh and Glasgow she sang no less than thirty songs at each concert.

"HOLE IN THE GROUND MAY SOLVE BIG PROBLEMS," SAY EUROPEAN ENGINEERS

"Power, Ease and Wealth for All at a Distance of Six Miles Under Our Feet"—Sterling Heilig, Paris Correspondent of The Sunday Star, Writes of the Dream of a Radium Age—Idea Talked of in Tunis, North Africa.

BY STERLING HEILIG.

TUNIS, North Africa, January 19, 1922.

HERE all talk about the big hole. What was recently declared "a crazy project in a world exhausted by war" is now spoken of as the highest industrial wisdom. It is to make a glorious new world, of unlimited power, ease and wealth for all!

It is the big hole in the ground again. Camille Flammarion, when he first advocated it, called it "a well of exploration," but something more than scientific curiosity is required to start a work in comparison with which the Panama canal is dwarfed, and at a time when half the world is out of gear.

Secrets to make men demigods are under foot. Here, in the plains toward the Sahara, engineers and capitalists of varied nations plan (they say) to mobilize armies for a better-paying task than mutual killing.

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AS Flammarion says truly, we know nothing about the planet we inhabit. Geography deals with the surface. Astronomers have determined the earth's form, mass and movements, but what the old ball really is remains a mystery. Tunnels piercing mountains merely penetrate its lumps.

The deepest mine in the world, near Ribnik, in Upper Silesia, dug between 1893 and 1902 by a private company, is nearly a mile and a quarter deep. The mine of Schladebach, in Saxon Prussia, touches the mile.

Is the globe liquid or solid? Until recently science supposed a liquid incandescent central mass covered by a thin crust. The rate of increasing heat observed in mines and the molten matter thrown out by volcanoes furnished calculations which made out the crust to be less than seventy miles thick.

Modern geology refuses to admit such a thin shell protecting us from such a furnace.

Vast fluid masses of the interior, following the attraction of the moon, would smash against the crust twice a day in terrific interior tides. We would live in perpetual earthquakes whose violence we cannot imagine. Immense crevasses would open under our feet and white-hot molten matter would pour out of them—as in the days, formerly supposed, when the crust first "cooled."

Now, the speed of earthquake vibrations and the feeble intensity of actual crust undulations proves that nothing of the kind is true. The great American astronomer, See, says

AT THE MOUTH OF THE BIG HOLE, AS IT IS EXPECTED TO APPEAR WHEN WORK IS STARTED. THE PLAN DWARFS THE PANAMA CANAL PROJECT.

that the interior never was molten.

The latest theories supposed the rigidity of steel throughout—both solid and elastic. But what about the increasing heat of mines, which seems so real, theory apart? It no more bothers these engineers than it bothered Flammarion. Science and industry are ready to meet it. Why, in piercing the Simplon tunnel, six miles from Brigues, the torrents of hot water at 130 degrees Fahrenheit did not stop them a week.

How do you know, they say, that the earth's heat will increase in the same ratio as we go deeper? In existing mines it increases, on an average, one degree Centigrade per thirty-three yards depth; but it is not the same all over the world. In some mines the heat increases one degree Centigrade every sixty yards down; in others every 100 yards, while in certain other parts of the earth it goes up one degree Centigrade with every fifteen or twenty yards.

Which latter proves too much.

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BUT if there be no molten interior, what causes the heat observed in mines? Science has come to the practical certitude that it is radium or some still more powerful, radiating substance yet unknown. So, in 1900, Becquerel's uranium was wonderful and radium unknown.

It is a commonplace of popular science what a fascinatingly small proportion of radium scattered through the earth beneath our feet could compensate for the heat we lose annually. The calculations indicate active radium layers in certain localities extending up astonishingly close to the surface. Probably at three miles depth the great rich heat-and-power-providing rocks extend everywhere.

Ah, for the days of the big hole! Think of the daily news it will provide—its progress, hopes, accidents and discoveries! They say that it will finally transform the situation of all of us, because its promises of power are too big to be cornered by any bunch of capitalists, although they dig it.

Flammarion speaks of the radium age, the age of platinum, the period of unknown metals. Modern science deems the mass of heavier metals situated deeper down than we have ever been to seek them.

Aluminum, the lightest metal, is scattered all over the earth's surface, but such gold, platinum and radium which men discover are found in accidental veins or deposits heaved up from lower down. Even when washed down in sand from mountain tops those mountain tops had been upheaved in cataclysms.

Deeper down, exclaims Flammarion, there may be metals too heavy to have ever come to the surface—being too deep, even, for the upflinging in veins. Whether or not they lie within the possible reach of the big holes remains a fascinating problem, quite apart from the more certain riches of radium. Camille Flammarion, who started the idea of the hole, thinks their existence practically certain.

Now, the heavier that metals are, atomically, the more valuable they are. Think of a world without rust—a world in which gold and platinum should be as cheap as iron is today! What health, economy and convenience to live in platinum! You do not wash a platinum spoon! You pass it through the flame, a moment, and it comes out pure and shining.

From the big hole is to come unlimited motive force—not from interior heat, but from its cause.

Aye, dream of lumps of radium as big as your head! If science had ten pounds of radium today to burn it would work miracles. The greatest difficulty might be to protect the men, down there, not so much from its heat as from its direct rays! When scientists get ten-pound lumps to work with they will turn out your perpetual motors in a few years—if it does not blast them while experimenting. The powers which compensate the loss of the earth's heat to outer space must be terrific. Had we depended on the sun alone to keep us warm we would have long been living on a snowball.

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THE Big Hole must be six miles deep. The true depth, of course, is "x"—the depth at which its heat prevents them going deeper (if prevented) will be that at which the earth gives up its secret. The calculations which attain this beautiful conclusion are said to be as convincing as complicated.

Of course, the conditions will be immensely more favorable than in a stuffy mine. One hears talk about the big hole being 600 yards in diameter. This means more than a mile around its mouth, at the surface. In such a vast circle, or in half it, for that matter, the refrigerating, pulverizing and suction conduits, alternating with the elevators, electric cables, etc., will find space to be on a titanic scale compared with the first use of some of the devices in the just completed parrellel tunnel of the Simplon or the oil wells of Texas. They have planned gigantic machines to keep the sides of the big hole frozen, deep down. Giant perforators and excavators, some resembling those seen at Panama, will tear out rock and dirt while fighting the increasing heat with liquefied air.

Between two and three miles deep, according to old geothermic theories, the temperature of boiling water should be reached.

(Now much of this is guesswork for all who have not seen the blue prints. One hears only the big outlines. But there is certainly talk about utilizing these temperatures to aid in generating force, at once, to combat them and to dig deeper! In vast refrigerating halls, cut horisontally into the hole's sides, such machines are to operate.)

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WE hear of pulverized rock and dirt to be sucked up in giant tubes around the circumference of hundreds of elevators for workmen and debris, of vast floors reaching partially across the hole at appropriate depths, for giving working space, of casing the walls with cement and steel and of more and more refrigerating apparatus and liquefied air everywhere.

All of which (nevertheless) leaves the true secret of the big hole still a mystery. Exactly what they seek, how they expect to harness it, if "it" be radium, their plans for getting to it, in face of difficulties and expense—such questions remain as unexplained as the strange confidence of those who claim some first-hand knowledge of the project.

It is a sporting chance of billionaires.

No government would dare risk such a work. No promoter could sell $50,000 worth of its stock. Yet the idea of a colossal hole in the ground is not new.

In more radical form, it caused the famous dispute between Voltaire and the eighteenth century scientist, Maupertuis, whom Frederick the Great had placed in charge of his Berlin Academy.

They quarrelled about a supposititious hole straight through the earth's diameter—say, from New York to Canton, China. What would happen to a cannon ball dropped into such a hole?

Plutarch, in the second century, asked the same question. Again, in the fourteenth century, long before Galile had made his experiments on weight or Newton his theory of gravitation, (which Einstein will not attack, be sure, in case of either cannon ball or fallen angel!) Dante, the inspired poet of the world, represented Lucifer as tumbling headlong from heaven and chained by natural forces in the exact center of the earth, "at the point where weights from every side are drawn."

Evidently Dante was mistaken in supposing the attractive forces greatest in the center of the earth. Voltaire flivvered categorically in claiming that "bodies would be stopped at the center of the earth and remain there, where the attraction is at its maximum."

We know that gravity is at its minimum at the center of the earth, but there are probably intelligent folks today who would bet, offhand, that the cannon ball ought to stick there for just that reason—that is by lack of any pulling force.

You forget acquired speed, Bill—what Einstein calls inertia. Theoretically, the cannon ball would fall down to the center of the earth in twenty-one minutes and with momentum just sufficient to carry it on up to China.

Arriving at the surface in China, it ought not to pop out of the hole, but, having not an inch more motive force, it ought, theoretically, to fall back again, immediately, down, down, like McGinty, and arrive at the center of the earth again, in twenty-one more minutes—and continue on up, with its acquired speed, just enough to take it to New York, its starting point, in yet another twenty-one minutes. You would get a glimpse of it arriving (coming up the hole, to bump you), but it would not bump you. As in China, it would not have legs enough to quit the hole, but reach its dead-point at the very surface. Then, of course, it would fall down, again, to the center of the earth, again in twenty-one minutes, and then on up to China in as many more.

And so on, back and forth, forever.

Camille Flammarion had worked it all out, perfectly, and then, at the last moment, he discovered that he, the superb modern mathematician, astronomer and physicist (like literary Voltaire and poetic Dante) had made a mistake as big as a house—for France, United States and China.

Flammarion's mistake was as follows:

Such beautiful exactness for the cannon ball would not be possible between New York or Paris and their antipodes. It is theoretically attainable, but only from north pole to south pole and vice versa, in following the dead point of the earth's axis—to avoid the influence of rotation and the effects of centrifugal force.

Any of us can make a mistake.

So, do not rush and claim that the big hole is impossible. If Camille Flammarion forgot a detail for a hole 4,000 miles long, might not you yourself overlook one in the big hole, which is only to be six miles deep?

Go slow. Reserve your judgment.

Wait, and you will see that you will see what you shall see.

PLAN TO LINK FOUR BIG NATIONAL PARKS

CREATION of a four-linked chain of areas in which primitive American trees, game, scenic beauties, gorges and canyons will be preserved in their primevally natural state, for Americans of the centuries to come, is the latest plan sponsored by the national park service of the Department of the Interior.

The contemplated additions to the already famous scenic section of the Grand canyon of the Colorado are in Arizona and Utah. These will form a northern chain, which, if anything, will give the southern chain of the Grand canyon, the Painted Desert and other magnets for tourists keen competition for eminence in the future.

Three links of the chain are ready for the legislative forging. The fourth is Zion National Park, already establishing a reputation for sheer natural beauty. To Zion National Park it is proposed to add a section farther north in Utah, which will become the Cedar Breaks section of the park. Farther to the east in the same state is Bryce canyon, a rival of the Brand canyon itself, which is to become a Utah state park. And the other link, if plans of Stephen T. Mather, director of the national park service; Senator Reed Smoot of Utah and others bear fruit, will become the greatest and most binding of the quartet. This section is the proposed President's forest, with its 300,000 acres of trees and shrubbery, valleys and ravines, glades and glens in virgin soil.

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SENATOR SMOOT has introduced into the Senate a resolution creating this forest a national preserve and making it, in the terms of the resolution, "a game sanctuary and forest preserve for the benefit and enjoyment of the people." The resolution is already before a Senate committee for consideration and action.

The territory of the proposed President's forest is in north central Arizona and represents almost the entire eastern half of the present Kaibab national forest. It is under control of the forest service and will continue thus if the resolution becomes a congressional act. The difference will be that after the enactment of the legislation the forest will be forbidden to cattle grazing in its grassy ravines and valleys, and further restrictions on location, occupancy and activities within the forest. All points within its bounds are to be "dedicated and set apart" for America. The congressional act of 1906 for the protection of wild animals in the Grand Canyon forest reserve will apply to the lands reserved for the President's forest.

A plan which looks even farther ahead, however, has cropped up, with its object the widening of America's scenic country. Tourists to the Grand canyon by way of the southern routes have been often disappointed because of the inability to reach the northern rim of the canyon on the opposite side. The plan's keystone is the construction of a bridge across the Colorado, Lees Ferry, Ariz., thereby connecting the southern rim with the northern rim of the canyon and eliminating the 400-mile detour now required to reach the opposite side of the canyon.

This plan, if properly worked out, will create a chain of scenic features, in the opinion of Senator Smoot, who is familiar with this section of the country, which would not be equaled in the entire world.

At present the proposed President's forest occupies the center of the stage of speculation. It is located in the center of the proposed chain of scenic spots and would form a link between the second and fourth of the smaller chains in Utah. To illustrate: A tourist entering from the north would pass first through Cedar Breaks, then through Zion National Park, go through the President's forest and on the exit trail take in the Bryce Canyon State Park.

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SIMILARLY, after the Lee's Ferry bridge is constructed, the first place to land, if coming from the south, would be on the northern rim of the President's Forest. A trip through the forest would bring the tourist to Bright Angel point, regarded by many as one of the most advantageous points for viewing the canyon.

In making preparations for the President's Forest, the psychological effect upon America has not been overlooked. Pick up your "Robin Hood" and note the respect and reverence instilled into the minds of people of those days by the magic words, "The King's Forest." Death was the penalty for killing the king's deer within that forest. They were part of the national entity. The President's Forest is akin directly to this older proposition. In it today are at least ten thousand roving deer. They will find sanctuary and protection from huntsmen if the President becomes their patron. In the forest no destructive ax may fell a living tree. Nature is accorded the highest protection possible and is placed directly under the care of the chief executive of the American nation.

As to the description of the forest: Look at the Washington Monument. It is 550 feet from the ground to its pin-point top. Imagine a sheer bluff rising almost ten times that height to 5,000 feet in the air. Or raise the monument to that height in imagination. Now, instead of a pin-point top, place a huge tract of land with trees abounding, measuring 300,000 acres. Perhaps that gives you a slight idea of the forest-plateau from the standpoint of one on the ground.

Try another view: Imagine a platform suspended in the air high above the ground. Get on this platform and look down on Arizona and Utah. That great stream, winding between brilliantly-colored masses of stone, standing out like and artist's masterpiece of lanscape, is the Colorado. There's a green carpet stretching down to the northern rim of those blazing colors. It broadens and stretches to the northward, rising gently here and there like small waves of a brilliant green ocean. Those are thousands of pines, firs and spruce with their roots fastened in soil which has never been trod by foot of man. Note the manner in which they blanket that far-down region. That green stretch is almost fifty miles in the square.

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FAR off to the north and west there is a semi-circular stretch of brownish earth. It is barren land hemming in the oasis. Settlement there is light because of low productivity of the soil. Railroads have not grown up in that area because traffic would not justify it. It has been a protection to the forest it incloses as effective as an unscalable wall. It forbids the encroachment of the sawmills of commercialism upon those primeval pines and spruce.

That is only a word picture of President's Forest. Nature's well known love for contrast has thrown up those massive, arboreal fingers of art in a fertile soil just beyond that contrasting desert stretch of land which has defied luxuriant vegetation. The ground itself is a contrast. That entire plateau is 5,000 feet in height and the Grand Canyon of Colorado is that deep just to the south of it.

This is the center link of the chain of scenic centers of the future. To the south stretches the Grand Canyon, as before stated, the same about which writers announce nothing can be written in fully descriptive style—and then they start on a five-thousand-word description. Further away is the Painted Desert, the playground of the sands.

Attention already is being given to improvement of roads needed to reach the national park chain.

Good roads must precede good travel. These receive first consideration. Within the national forest the government will have charge of the roads and will guarantee first-class routes of travel. To afford ready means of tourist travel the states surrounding the territory are already making plans for the improvement of roads leading to it. Mr. Mather last month attended a meeting at Salt Lake City, at which the working plans for the improvement of roads were laid. Before the close of 1923, it is expected, the linking roadways from the north and from the west will be in first-class condition.

The next feature of the plan deserves more than a sentence. At present tourists coming up to the Grand Canyon from the south are restricted to the southern rim of the canyon, except by a 400-mile or more detour around the western corner of Arizona. There is no bridge across the canyon at present which will allow the trip from the south to be made without this detour. Now comes the proposal for the building of a bridge at Lees Ferry, Ariz., across which tourists and motorists may pass to the north rim of the canyon and almost directly into the President's forest territory.

This bridge should be built, it is predicted, within the next three years. When it is, the entire scenic section will be in direct alignment, and tourists who have hitherto been restricted to only one rim, if they travel in direct lines, will be enabled to take in the sights of both.

The Santa Fe railroad has in the past conducted extensive advertising campaigns of the beauties of the Colorado canyon. This is done in spite of the fact that there are two automobile tourists to every one train traveler entering the scenic region. With the building of the bridge at Lees Ferry, the attractions that may be advertised will not be limited to the canyon. There is the President's forest, which will be easily reached, as well as the adjoining national park, and state park centers. This will also allow the Union Pacific railroad on the north as well as the Denver and Rio Grande Western railroad branch to advertise the Grand Canyon as part of the direct scenic tour.

The Lincoln highway, the Roosevelt national highway and the Pike's Peak Ocean-to-Ocean highway will furnish routes for tourists by automobile in the northern sections. All run into Salt Lake City. South from that point the Arrowhead trail will take tourists to the scenic regions.

From the south the Dixie Overland highway, the Bankhead highway and the Old Spanish trail touch Phoenix, Ariz., from which point, via Prescott and Flagstaff, Ariz., the automobilists may reach the Old National trails for the trip. The connecting link between these two routes is expected to be the bridge across the Colorado at Leeds Ferry.

Fine photographs of the President's forest and vicinity are contained in the Rotogravure Section of today's Star.

Odd Fish Trap.

AT Dover, England, there has been constructed a series of immense breakwaters in order to increase the size of the harbor. In the work a big diving bell was employed. When this machine was descending on one occasion the men seated around its sides saw in the glare of the electric light a strange sight.

The water beneath them suddenly became alive with thousands of silvery fish, which darted hither and thither in their efforts to escape the unexpected captivity. Some succeeded in diving under the edges of the bell, but as it descended nearer and nearer the bottom, the few inches of water remaining became thick with the fish.

When the bell rested on the bed of the sea the men captured nearly a thousand of the sprats. The fish were probably attracted by the electric light that is used in such a bell.

Neon and the Aurora.

BY means of sounding balloons there have been collected specimens of the air up to an altitude of more than eight and a half miles. Analysis shows the presence of helium only in the layers lower than about six miles. Neon, on the contrary, is found at all levels, and this fact is regarded as confirming the identification of several spectroscopic lines of neon in the spectrum of the aurora borealis.